

ART. XVII.—*Embolism of the Central Artery of the Retina in both Eyes; Death.* By OLAF PAGE, M.D., of Valparaiso, Chili.

ON the 4th of April, 1873, I was consulted by a German, twenty years of age, on account of blindness of the left eye, which he had first become aware of the morning of the same day, on waking up. On examination there was not the slightest perception of light, either natural or artificial. I found with the ophthalmoscope that the optic nerve appeared very white, not however like that whiteness due to atrophy. The arteries were reduced to mere threads. The veins within the circumference of the optic nerve appeared somewhat smaller than those in the sound eye, whereas, beyond that limit, they seemed in parts very much gorged. The macula was occupied by a red stain. The whole retina appeared a little paler than in the sound eye. The state of the parts as revealed by the ophthalmoscope, and the history of the case, in regard to the suddenness of the attack, led me to the conclusion that the loss of sight was due to embolism of the central artery of the retina. I examined the heart, and found the diagnosis in a great measure confirmed. At the base was to be heard a loud, harsh, grating sound, due, no doubt, to extensive disease in the aortic valves. When the patient was informed that there was in all probability no remedy for the loss of sight, and that it was due to disease of the heart, he expressed much surprise, as he had never felt the slightest inconvenience, having always walked and danced and ridden as much as any of his friends. He had, in fact, two days before he discovered his condition, been violently thrown from his horse, falling on his back and side. It is not improbable that the shock thus produced may have been the immediate cause in this process. He was most strictly enjoined to lead a quiet, sober life, which advice he as carelessly obeyed. Two months after this date, I begged him to let me examine the eye, and found complete atrophy of the optic nerve. I saw no more of my patient until the evening of the 13th of September, when he was led into my house completely blind. He had been found by one of his friends groping about on the sidewalk. He had a dim perception of a strong gas light, and under the ophthalmoscope there was a slight degree of sensitiveness. The retinal vessels appeared very much reduced in size, the arteries indeed perfectly filiform. Towards the periphery the veins seemed here and there somewhat enlarged. As the poor fellow appeared very ill indeed, his tongue very foul, breath offensive, pulse 120, and pain about the region of the heart, and some cough, I advised him to go back immediately to his quarters. He had evidently been drinking heavily for some days previous to this. The following day I saw him at his lodgings, and finding him in a most deplorable condition, without attendance of any kind, I advised him to go to the British Naval Hospital, under the care of Dr. Geo. F. Cooper. On the 15th he was taken there, and put into one of the private rooms. On the 18th Dr. Cannon, House Surgeon, reported as follows: "The German died yesterday evening. He was suddenly seized with intense dyspnoea at 5 P. M., and at 6 I saw him moribund; pulse beyond counting, extremities cold, great restlessness and distress, etc." The post-mortem was made 16 hours after death, by Dr. Cooper and myself, with the following results:—

The pericardium contained about $1\frac{1}{2}$ oz. of a straw-coloured fluid. Both

lungs very much congested. In the left at the lower and back part several slight adhesions. The heart very large, weighing 1 lb. 11 oz.; the walls of the left ventricle enormously hypertrophied; ventricle itself full of dark blood. The aortic valves thickly covered with large vegetations, in many points perfectly calcified. On their ventricular surface, a condition of softening was noted. A probe could be passed through one of the valves. The right auricle and ventricle healthy; gorged with dark blood. Pulmonary artery full of coagulated blood; valves perfectly sound; tricuspid likewise. Kidneys slighted congested, otherwise normal. On examining the brain, its substance was found quite healthy. The left middle cerebral artery contained a large firm clot; ophthalmic arteries perfectly healthy; no clot.

Owing to a want of proper instruments, I regret very much to say that a microscopical examination was not made. Nevertheless, from the history of the case, from the sudden way in which vision was abolished, from the ophthalmoscopic appearances, and from the condition of the heart after death, there can be no hesitation or doubt in ascribing the loss of sight in both eyes to embolism of the central artery of the retina.

VALPARAISO, No. 8 Calle Planchada.

ART. XVIII.—*On the Guaiacum Process for the Detection of Blood as a Valuable Aid in distinguishing Nucleated from Non-nucleated Red Blood Disks.* By R. M. BERTOLET, M.D., Microscopist to the Philadelphia Hospital.

THE large size, elliptical shape, and the central oval nucleus, characterizing the red blood disks of birds, fishes, and reptiles, are generally considered as ample land-marks to enable even the merest novice in microscopy to distinguish the blood of any animal belonging to any one of these three great classes from the flat, biconcave, non-nucleated disks characterizing human and mammalian blood. Such is the case, at least, as far as fresh specimens are concerned, but it is far from an easy matter to discriminate between these two kinds of blood when they have once become clotted and thoroughly dried. What great changes this process of drying implies! The corpuscles are no longer flat and smooth, but shrunken and crenated; their outlines are no longer regular and sharply defined, but irregular, jagged, or stellate; they are so intimately agglutinated with one another, and hidden in the meshes of the coagulated fibrin, that it becomes difficult, even in thin fragments, to recognize them.

When blood is very thinly spread out and rapidly dried upon a glass slide, then the disks remain firmly stretched and the diameters are not materially altered;¹ but when left to dry in any other manner, the great shrinkage and other alterations in the corpuscles just enumerated take place. Under these circumstances it becomes an extremely difficult task

¹ Vide Stricker, *Gewebe Lehre*, Leipzig, 1871, p. 280.